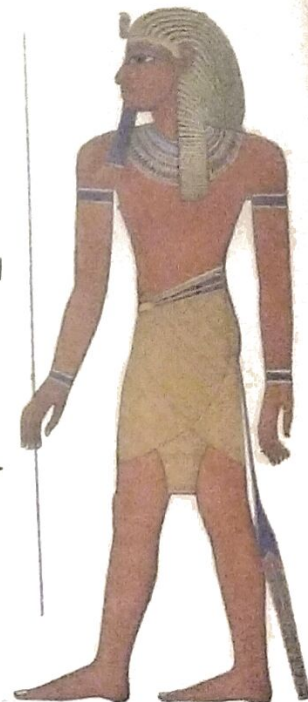
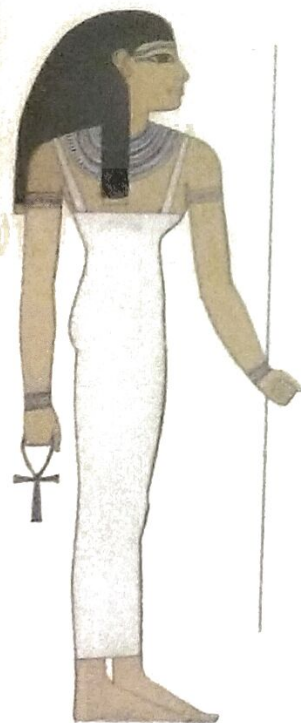


THE METROPOLITAN MUSEUM OF ART

# Fun with Hieroglyphs



BY CATHARINE ROEHRIG





# Fun with Hieroglyphs

By Catharine Roehrig



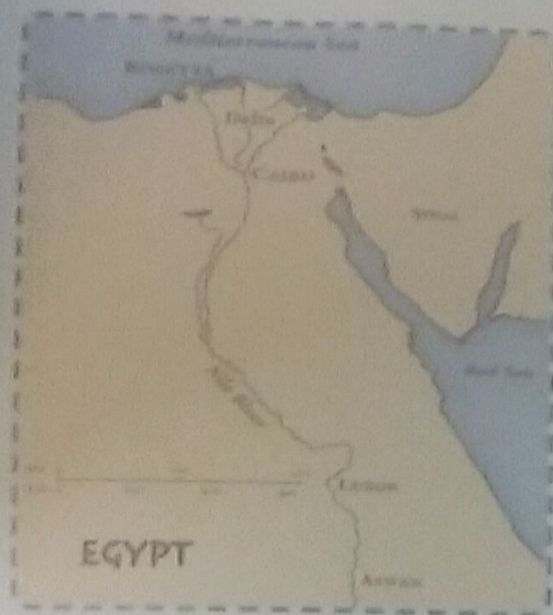
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THE METROPOLITAN MUSEUM OF ART  
NEW YORK

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# Introduction



About 5,000 years ago, in the northeast corner of Africa, the people living along the Nile River began to set their language down in writing. Like most cultures that are just beginning to invent a writing system, the ancient Egyptians used pictures to write their language. Eventually the symbols came to represent sounds. The pictures became known as hieroglyphs, or "sacred inscriptions," because they were often written on the walls of temples.

The Egyptians continued to use hieroglyphic writing for more than 3,500 years, until about AD 400. After that, the language was written in the Greek alphabet with several extra letters



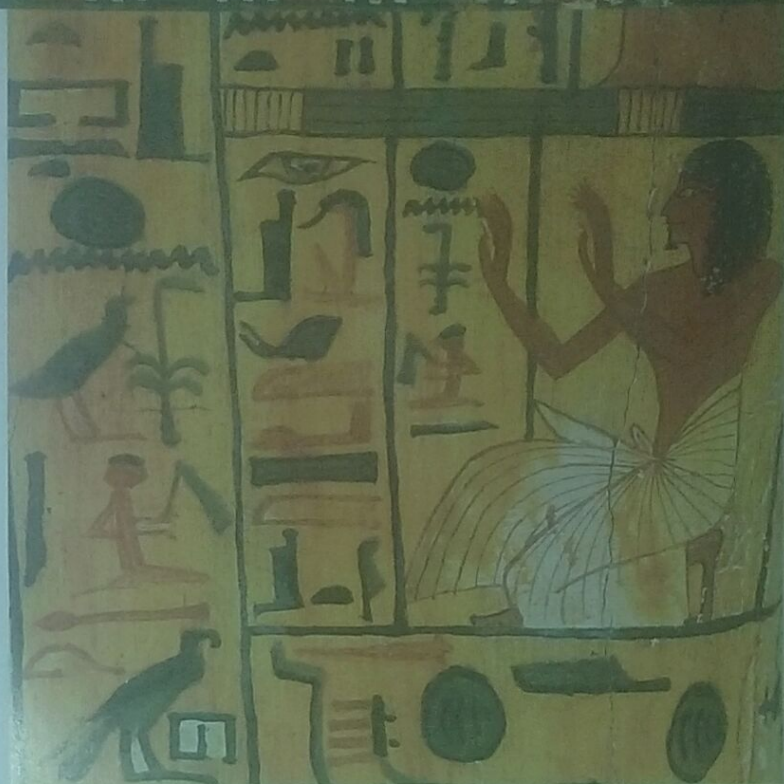
*Journey to Abydos*, (detail), Egyptian, Dynasty 18 (ca. 1550–1295 BC). Tempera on paper.



added for Egyptian sounds that did not exist in Greek. This late form of Egyptian is called Coptic. Eventually Coptic was replaced by Arabic, the language spoken in Egypt today. Since no one was left who knew how to read, or write, or speak the ancient language, it died out. Only hieroglyphs were left as clues that the language ever existed.

It was not until 1799 that the secret to deciphering hieroglyphs—the Rosetta Stone—was unearthed in Egypt. It took another twenty-three years before a young Frenchman, Jean François Champollion, decoded the writings on the stone and discovered what the hieroglyphs represented.

When you have finished reading this book, you (unlike travelers of long ago) will be able to recognize and pronounce many of the hieroglyphs that can be seen in Egyptian inscriptions. You will even be able to recognize the names of some of the pharaohs. The twenty-four hieroglyphic stamps in this kit represent sounds, and once you know them, you will be ready to stamp sentences using symbols from this ancient language.



Inner Coffin of Khonsu (detail). Egyptian (Thebes), Dynasty 19 (ca. 1279–1213 BC). Painted wood and gesso.

## Mysterious Hieroglyphs


Before 1822, when the hieroglyphic code was broken, travelers to Egypt were intrigued by the mysterious symbols that they saw carved on the walls of temples and tombs. Since no one could tell them what the hieroglyphs meant, they made up fantastic translations. They thought that hieroglyphs recorded magical spells and secret religious practices.



# The Hieroglyphic Alphabet





Nofretari Kneeling in Adoration (detail). Egyptian (Thebes),  
Dynasty 19 (ca. 1295–1186 BC). Tempera on paper.

When you look at hieroglyphs on a statue, or a wall, or in a book, you may think that each hieroglyph stands for a word. In a few cases, you would be correct. Some hieroglyphs do mean what they represent. For example, the hieroglyph  a picture of the sun (usually shown as a circle with a dot in the middle), means *sun*.

However, hieroglyphic writing is more than picture writing. Although at first they probably were used as pictures, some hieroglyphs eventually began to represent sounds.

Twenty-four hieroglyphs represent the single sounds found in the Egyptian language. These hieroglyphs are used like the letters of the alphabet.


For example, the hieroglyph , an owl, stands for the sound *m*, not for the word *owl*. The hieroglyph , a basket, stands for the sound *k*, not for the word *basket*.













Often, but not always, a hieroglyph and a letter represent the same sound. But since English and Egyptian are not from the same language family, some sounds used by the Egyptians do not exist in the alphabet. And some English sounds do not exist in Egyptian.

The Egyptians didn't hear a difference between the sounds *f* and *t*, so both are represented by the hieroglyph . The sound for this hieroglyph is *f*.



They also didn't hear a difference between the sounds *r* and *l*, so they are represented by the hieroglyph . The sound for this hieroglyph is *r*.

### Unfamiliar Sounds

Hieroglyph	Non-English Sound	Closest English Sound
	like the Arabic letter <i>ayin</i> , a sound made at the back of the throat	like a as in make
	an aspirate <i>h</i>	like h as in hat
	guttural <i>kh</i> sound as the "k" sound in the Arabic letter <i>kh</i> . This sound is sometimes written <i>kh</i> in English.	k
	like the <i>ch</i> sound in German	h
	like the Arabic letter <i>kaf</i> , a sound made at the back of the throat	k

The Egyptians also had no sound for the English *th*. With this sound you have a choice. To be strictly accurate, spell out *th* using the hieroglyphs for *t* and *h*. For example, the word *this* would be spelled:

t + h + i + s

Or you can use  or  to represent *th*. Neither hieroglyph represents a sound found in English, so you can pretend that they sound like *th*. Remember that *th* has two sounds in English. The first is the *th* sound heard in words like *this*, *the*, and *other*. The second is the *th* sound heard in words like *thrive*, *throw*, and *both*. Try saying these words until you can hear the difference.

Sound

Hieroglyphic Spelling

th as in this

th + i + s

th as in three

th + r + e + e

Match these words to the correct hieroglyphs.

(Hint: Say each word, carefully listening to the *th* sound. See the chart on pages 12 and 13 to identify hieroglyphs.)

with

them

both

think

the



(Use page 46 for answers.)

On the following pages is a list of letters and the sounds that they represent. Next to each letter you will find the hieroglyph that is closest to each letter's sound.


A few letters—most vowels and several consonants—have more than one sound, so


these letters have more than one hieroglyph. Three letters (*e*, *h*, and *k*) have two hieroglyphs for one sound; for these, choose the hieroglyph that looks the best.

Remember, it is the *sound* that is important when writing with the hieroglyphic alphabet.










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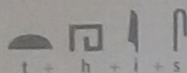
The Egyptians didn't hear a difference between the sounds *f* and *v*, so both are represented by the hieroglyph . The sound for this hieroglyph is *f*.



They also didn't hear a difference between the sounds *r* and *l*, so they are represented by the hieroglyph . The sound for this hieroglyph is *r*.

### Unfamiliar Sounds

Hieroglyph	Non-English Sound	Closest English Sound
	like the Arabic letter  "ayin," a puffed made at the back of the throat	like a as in <i>man</i>
	an emphatic <i>h</i>	like <i>h</i> as in <i>hal</i>
	guttural <i>ch</i> , found in the Scottish word <i>loch</i> or the Arabic letter <i>ḥ</i> . This sound is sometimes written <i>kh</i> in English.	<i>k</i>
	like the <i>ch</i> found in German	<i>h</i>
	like the Arabic letter  <i>káf</i> , a <i>k</i> sound made at the back of the throat	<i>k</i>

The Egyptians also had no sound for the English *th*. With this sound you have a choice. To be strictly accurate, spell out *th*, using the hieroglyphs for *t* and *h*. For example, the word *this* would be spelled:

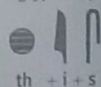


Or you can use  or  to represent *th*. Neither hieroglyph represents a sound found in English, so you can pretend that they sound like *th*. Remember that *th* has two sounds in English. The first is the *th* sound heard in words like *this*, *the*, and *other*. The second is the *th* sound heard in words like *three*, *throw*, and *both*. Try saying these words until you can hear the difference.

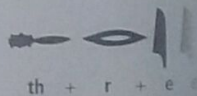
Sound

Hieroglyphic Spelling

*th* as in *this*



*th* as in *three*



Match these words to the correct hieroglyphs.

(Hint: Say each word, carefully listening to the *th* sound. See the chart on pages 12 and 13 to identify hieroglyphs.)

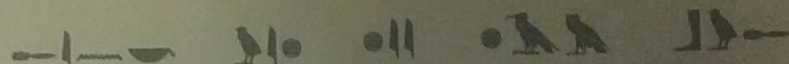
with

them

both

think

the



(See page 48 for answers.)

On the following pages is a list of letters and the sounds that they represent. Next to each letter you will find the hieroglyph that is closest to each letter's sound.











A few letters—most vowels and several consonants—have more than one sound, so












these letters have more than one hieroglyph. Three letters (*e*, *h*, and *k*) have two hieroglyphs for one sound; for these, choose the hieroglyph that looks the best.

Remember, it is the *sound* that is important when writing with the hieroglyphic alphabet.



# LETTERS, HIEROGLYPHS AND

Letter	Hieroglyph	Sound
A	 vulture  forearm	Use the vulture for the <b>a</b> sound in words like <b>at</b> and <b>bat</b> or <b>about</b> and <b>across</b> . Use the forearm for the <b>a</b> sound in words like <b>able</b> and <b>make</b> .
B	 foot	Use the foot for the <b>b</b> sound in words like <b>ball</b> or <b>boy</b> .
C	 basket  hillside  folded cloth	Use either the basket or the hillside for the hard <b>c</b> sound in words like <b>camel</b> , <b>candy</b> , and <b>school</b> . Use the folded cloth for the soft <b>c</b> sound in words like <b>cent</b> and <b>nice</b> .
CH	 hobble rope	Use the hobble rope for the <b>ch</b> sound in words like <b>choose</b> and <b>church</b> .
D	 hand	Use the hand for the <b>d</b> sound in words like <b>delta</b> and <b>dime</b> .
E	 vulture  two reed leaves	Use the vulture for the <b>e</b> sound in words like <b>earn</b> and <b>over</b> or <b>bet</b> and <b>elt</b> . Use two reed leaves for the <b>e</b> sound in words like <b>read</b> and <b>reed</b> .

Letter	Hieroglyph	Sound
F	 horned viper	Use the horned viper for the <b>f</b> sound in words like <b>far</b> and <b>fort</b> and <b>pharaoh</b> .
G	 pot stand	Use the pot stand for the hard <b>g</b> sound in words like <b>girl</b> and <b>go</b> .
H	 shelter  rope	Use either the shelter or the rope for the <b>h</b> sound in words like <b>behind</b> , <b>hit</b> , and <b>who</b> .
I	 one reed leaf	Use one reed leaf for both the short <b>i</b> sound in words like <b>bit</b> and <b>still</b> , and the long <b>i</b> sound in words like <b>bite</b> and <b>ivy</b> .
J	 cobra	Use the cobra for the <b>j</b> sound in words like <b>jam</b> and <b>jinx</b> or <b>George</b> and <b>gentle</b> .
K	 basket  hillside	Use either the basket or the hillside for the <b>k</b> sound in words like <b>back</b> and <b>keep</b> .
L	 open mouth	Use the open mouth for the <b>l</b> sound in words like <b>late</b> and <b>leaf</b> .
M	 owl	Use the owl for the <b>m</b> sound in words like <b>crumb</b> and <b>mud</b> .
N	 water	Use the water for the <b>n</b> sound in words like <b>bone</b> and <b>Nile</b> .






















# LETTERS, HIEROGLYPHS, AND THEIR SOUNDS

Letter Hieroglyph Sound

Letter Hieroglyph

## S AND THEIR SOUNDS

Letter	Hieroglyph	Sound
O	 vulture	Use the vulture for the <b>o</b> sound in words like <b>oat</b> and <b>Oliver</b> and <b>bought</b> and <b>roul</b> .
	 quail chick	Use the quail chick for the <b>o</b> sound in words like <b>hoot</b> and <b>moon</b> , <b>boat</b> and <b>open</b> , or <b>foot</b> and <b>soot</b> .
P	 stool	Use the stool for the <b>p</b> sound in words like <b>pet</b> and <b>pond</b> .
Q	 basket + quail chick	Use the basket and the quail chick for the <b>qu</b> ( <b>kw</b> ) sound in words like <b>queen</b> and <b>quick</b> .
R	 open mouth	Use the open mouth for the <b>r</b> sound in words like <b>crown</b> and <b>rain</b> .
	 folded cloth	Use the folded cloth for the <b>s</b> sound in words like <b>cats</b> or <b>house</b> .
S	 door bolt	Use the door bolt for the <b>s</b> sound in words like <b>boys</b> and <b>please</b> .
SH	 lake	Use the lake for the <b>sh</b> sound in words like <b>ship</b> , <b>machine</b> , and <b>Schmidt</b> .
T	 bread loaf	Use the bread loaf for the <b>t</b> sound in words like <b>let</b> and <b>tell</b> .

Letter	Hieroglyph	Sound
TH	 cow's belly	Use the cow's belly for the <b>th</b> sound in words like <b>both</b> and <b>through</b> .
	 (unknown*)	Use this hieroglyph for the <b>th</b> sound in words like <b>bother</b> and <b>the</b> .
	 quail chick	Use the quail chick for the <b>u</b> sound in words like <b>cut</b> and <b>gull</b> or <b>full</b> and <b>pull</b> .
U	 one reed leaf + quail chick	Use one reed leaf and the quail chick for the <b>u</b> sound in words like <b>mule</b> and <b>fuel</b> .
V	 horned viper	Use the horned viper for the <b>v</b> sound in words like <b>cover</b> and <b>video</b> .
W	 quail chick	Use the quail chick for the <b>w</b> sound in words like <b>cow</b> , <b>what</b> , <b>where</b> , and <b>wind</b> .
X	 basket + folded cloth	Use the basket and the folded cloth for the <b>x</b> sound in words like <b>box</b> , <b>extra</b> , and <b>socks</b> .
	 one reed leaf	Use one reed leaf for the <b>y</b> sound in words like <b>clayton</b> , <b>yes</b> , and <b>you</b> .
Y	 two reed leaves	Use two reed leaves for the <b>y</b> sound in words like <b>Mary</b> and <b>Yvonne</b> .
Z	 door bolt	Use the door bolt for the <b>z</b> sound in words like <b>zebra</b> and <b>xylophone</b> .

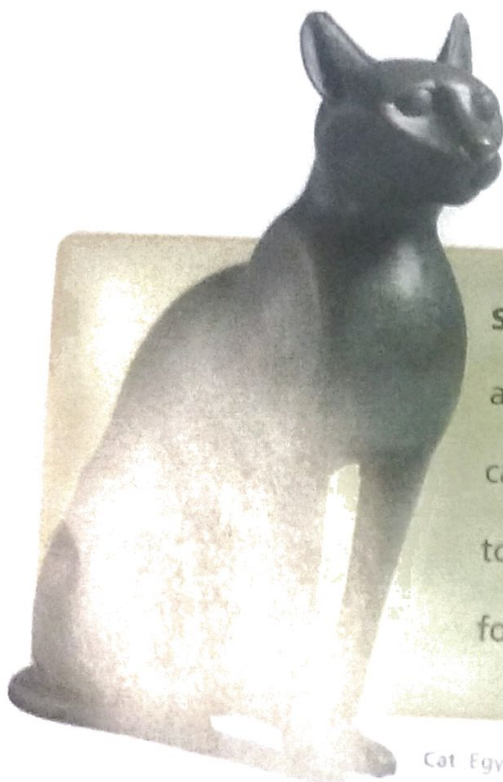
\*This hieroglyph's meaning is still unknown.



Some letters in the alphabet sound like others, so pay attention to the way a letter sounds when you're choosing a hieroglyph. For example, in the word *cat*, the *c* sounds like *k*, and in the word *cent*, the *c* sounds like *s*. These letters use the same hieroglyph because they share the same sound.

## Similar Sounds

Letter	Hieroglyph	Sound
c		k as in cat
c		s as in cent
qu		kw as in quail
x		ks as in box
x		z as in xylophone



Stamp these words in hieroglyphs.

at	boot	chin	map
cat	twin	wax	tree
to	kiss	zip	sugar
food	gym	clue	

(See page 46 for answers.)

Cat: Egyptian, Ptolemaic period (ca. 330–30 BC). Bronze.



**Match these words to the correct hieroglyphs.**

(Hint: Pay attention to the sound, not the spelling.)

judge

queen

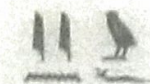
neighbor

weather

xerox

enough

sphinx



**Sphinx of Amenhotep III.** Egyptian, Dynasty 18 (ca. 1390–1352 BC). Faience.

(See page 46 for answers.)



# The Orientation of Hieroglyphs

Unlike the letters in the alphabet, hieroglyphs can be read in more than one direction. They can be read from left to right like English, or from right to left like Arabic and Hebrew, or in columns from top to bottom like Chinese.

DOWN FROM LEFT TO RIGHT  
T33J OT TH3IR MOR3

You can tell which way hieroglyphs are supposed to be read by looking at the animals, plants, and people. If they face left, start reading from the left. If they face right, begin at the right. In other words, read toward the faces. Almost always the hieroglyphs that refer to a person face the same direction as the person.



Stela of Ptahmose (detail), Egyptian, Dynasty 19 (ca. 1295–1186 BC). Limestone.



The direction in which a hieroglyphic text was written depended on the kind of text it was and how it was used. When the Egyptians wrote long inscriptions (official documents, for example, or long historical texts without illustrations), they usually wrote the hieroglyphs facing right. The inscription would be read from right to left, the opposite of how English is read. However, if an inscription was used to decorate a building, the Egyptians often wrote the hieroglyphs in different directions.

When a hieroglyphic text is part of a scene that contains more than one person, the direction that the hieroglyphs face tells which words refer to which person. On the stone slab or stela at left, a man with upraised arms is making an offering to the god Osiris, ruler of the afterworld. The two short columns of text near Osiris give Osiris's name and titles. Like Osiris, they face right. The six columns of text at the right give the titles of the man and record his offering to the god. Like the man, these hieroglyphs face left.



Stela of the Chancellor Neferiu (detail). Egyptian, Dynasty 9 (ca. 2100–2090 BC). Painted limestone.

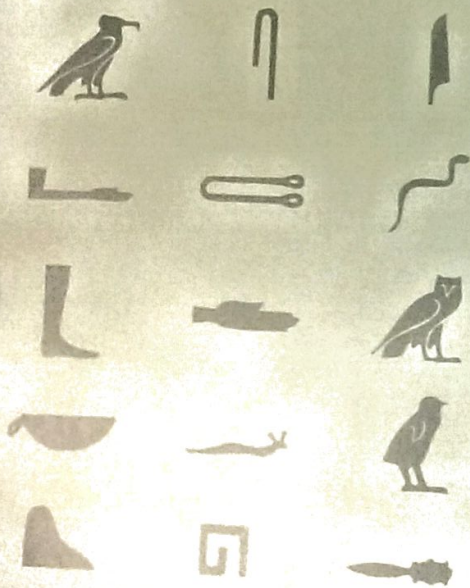
### Left to Right, Right to Left

On the stela above, there is a niche (the indented rectangular area in the center), which represents a door. The hieroglyphs and people on either side of the door face it in a symmetrical fashion. Look carefully at the hieroglyphs of animals, plants, and people. The ones on the left face right, so you would read toward the left. Those on the right face left so you would read toward the right.



## Write Like an Egyptian

Since fifteen of the hieroglyphic stamps in this kit face left, you can use them to write words only from left to right or from top to bottom. If you want to write from right to left, like the Egyptians often did, you must draw these fifteen hieroglyphs yourself. Here they are, facing right. Practice first by tracing the hieroglyphs, then try drawing them freehand. The other nine hieroglyphic stamps are symmetrical and can be used in either direction.



When the Egyptians wrote a word in hieroglyphs, they didn't just write one hieroglyph after another. They arranged them carefully, making them look attractive. For example, if an Egyptian had wanted to write the name *Frank* in hieroglyphs, he wouldn't have written it like this:



He probably would have artfully arranged the hieroglyphs and written them like this:



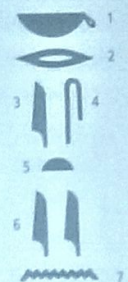
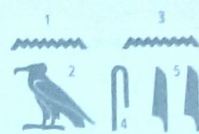
Grouping the hieroglyphs this way would not only fit the space better but also would look more attractive to an Egyptian. As you stamp messages and as you read the ones that you receive from your friends, remember that hieroglyphic words can be written horizontally (from left to right and from right to left) as well as vertically (from top to bottom). If one hieroglyph is above another, always read the one on top first.



# LETTERS, HIEROGLYPHS, AND THEIR SOUNDS

## Decipher these names.

(Hint: The numbers tell you the order to follow.)



(See page 46 for answers.)

## The Cartouche

When a new pharaoh came to the throne in Egypt, he took a coronation name. Both the coronation name and the personal name of the pharaoh were written inside a special frame called a cartouche, an oval with a line at the bottom. This actually represents a section of rope that is tied together at one end, forming a loop.

In this wall painting, King Haremhab stands facing the goddess Isis. Above his head are the cartouches recording his names. The highlighted cartouche is an expanded version of his personal name, "Haremhab, Beloved of Amun." Kings' names were often not spelled alphabetically, but Egyptians would understand what each hieroglyph represented. Notice that the hieroglyphs face left, just like Haremhab.



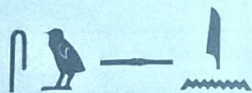
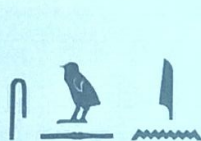
Haremhab Before Isis (detail). Egyptian (Thebes), Dynasty 18 (ca. 1323–1295 BC). Tempera on paper.



Now try stamping your own name both horizontally and vertically. First, decide which hieroglyphs to use by listening to the sound of your name. For example, Susan is pronounced SOOZIN so you might use these hieroglyphs:



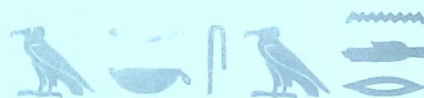
Decide how the hieroglyphs you have chosen will look best together. SOOZIN can be written several other ways:



Like the Egyptians, you can leave out unimportant vowels if you like. Here the *I* is left out of SOOZIN:



Now if a vowel is long, you can shorten it. ALEX becomes ALXANDR:



CHRISTOPHER becomes KRISTOFR:





# Find the hieroglyphic words.

In the puzzle, hunt for the words listed below. When you find a word, circle it. You can go left to right, top to bottom, or diagonally. One word (*man*) has been found for you. Can you find the items listed in this wall painting of a fishing expedition?



Menna and His Family Fishing and Fowling (detail). Egyptian (Thebes).  
Dynasty 18 (ca. 1550–1295 BC). Tempera on paper.

man     

bird     

fish     

cat     

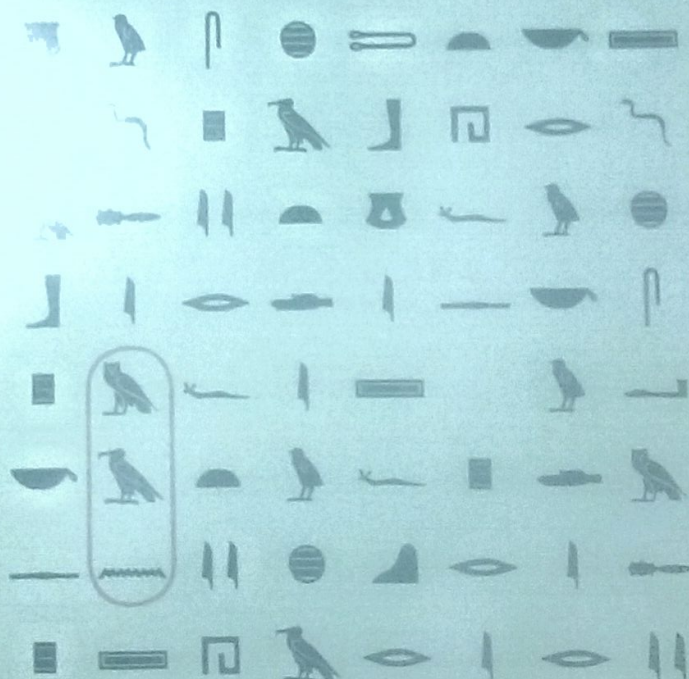
crocodile     

lily     

goose     

eggs     

river     



(See page 46 for answers.)



# Stamping Secret Messages



Prince and His Father, King Ramesses III, Before Hat-Hor. Egyptian (Thebes), Dynasty 20 (ca. 1195–1080 BC). Tempera on paper.

Now that you know all about the twenty-four alphabetic hieroglyphs and their sounds and how hieroglyphs are read, you are all set to begin writing letters and other secret messages to your friends using the stamps in this kit.

Make sure to give your friends a decoding sheet with the hieroglyphs and their sounds so that they like you, can decipher these ancient symbols. You can make a sheet by stamping the hieroglyphs and writing the sounds that they represent by each one. Or if you can photocopy the “Letters, Hieroglyphs, and Their Sounds” chart on pages 12 and 13.
























On the next page are words and phrases that you can use in your messages. As a sample, here is one:

H A P Y R I T N G



# LETTERS, HIEROGLYPHS, AND THEIR SOUND








## Hieroglyphic Words and Phrases




 Yes	 No	 Help	 Okay	 Kiss	 Hello
 Surprise	 Private	 Keep Out		 No Trespassing	
 Top Secret		 Urgent		 Confidential	
 Thank You		 Happy Father's Day		 Happy Mother's Day	
 I Miss You		 Thinking of You		 Happy Birthday	
 Good Luck		 Come to a Party		 Happy Valentine's Day	
 Congratulations					



# Counting with Hieroglyphs

Like members of every other culture, Egyptians needed to count. They needed numbers to measure their fields, take inventories, calculate taxes, and build temples, tombs, and houses. Just like ours, their counting system was based on the number 10. But instead of using a different symbol for each number from 1 through 9, the Egyptians had one hieroglyph for 1, one for 10, and so on.

Number	Hieroglyph
1	 stroke
10	 cattle hobble
100	 coil of rope
1,000	 lotus plant
10,000	 finger
100,000	 tadpole
1,000,000	 god with arms supporting the sky

The numbers most often found in Egyptian texts are  which stands for 1,  which stands for 10, and  which stands for 1,000.

A hieroglyph is repeated as many times as necessary to show the numbers from 1 through 9, the tens from 10 through 90, and so on.

The number 7 would be written like this:



The number 40 could be written this way:



The number 140 would be:



The number 1066 would be written:



## More T



The Egyptian  
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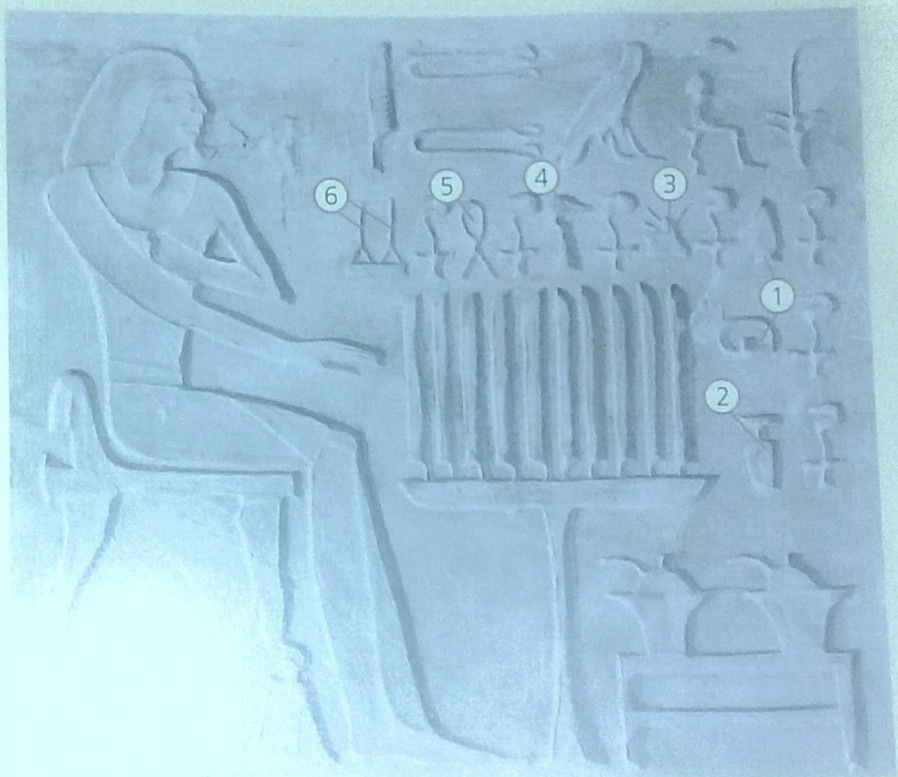
In the ste  
Mechech  
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of break  
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each c



## More Than Enough

The Egyptians wanted to be certain that they would have enough of every necessity after they died, so offering texts were written. These texts contained information about what they needed most in the afterlife. These items included bread, beer, the meat of cattle and birds, cloth, and stone jars for oils and perfumes. To be certain that they would not run out of anything, they wrote the number 1,000 in front of each offering.

In the stela at right, the nobleman Mechechi is seated before a table filled with offerings. (The hieroglyphs  on the top row of the stela spell his name.) Around the table are the standard items that each spirit needs in the afterlife. On top of the table are hieroglyphs that look like feathers, but they are really loaves of bread that have been cut in half. Beside the table are more bread and beer. Above the table are cattle, fowl, alabaster, and linen cloth. Mechechi asks to receive 1,000 of each as indicated by the  to the right of each object.





Door of Mechechi (detail). Egyptian, Dynasty 6 (ca. 2323–2150 BC). Limestone.  
1 bread (2) beer (3) cattle (4) fowl (5) alabaster (6) linen cloth



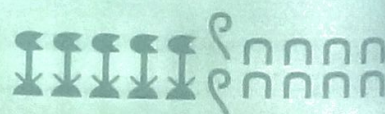


Stela of Montuwyser (detail). Egyptian, Dynasty 12 (ca.1961–1917 BC). Painted limestone.

In the above detail of a stela, hieroglyphs record a date at the beginning of the row. (Remember to start on the far right—the direction that the birds face.) The first two hieroglyphs of the date, the tall one and the round one, stand for the word *year* and are followed by a number. Dates were recorded differently back then. Egyptians started counting years at 1 each time a new ruler came to the throne.

This text was written in year  or 17 of King Kheper-ka-Re's reign. In the cartouche on the left of the line is the king's name, Kheper-ka-Re or "may he live forever." Of course, kings did not live or rule forever. Pharaohs reigned for more than  or 20 years, and many ruled for fewer than 10 years.





**Write these hieroglyphs as numerals.**



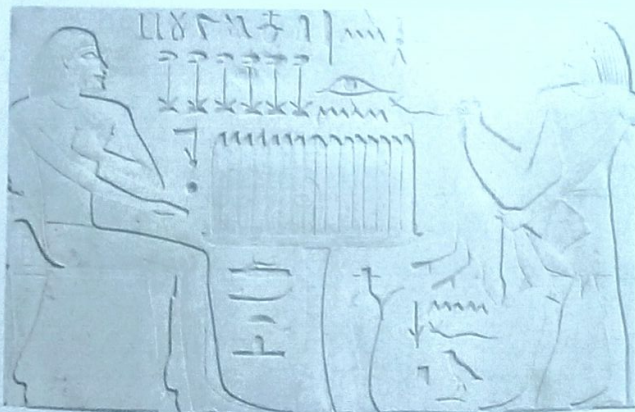
(See page 47 for answers.)



# LETTERS, HIEROGLYPHS

The longest reign of an Egyptian pharaoh is almost unbelievable. It was recorded for Pepi II, who lived at the end of the Old Kingdom, more than  or 4,000 years ago. Pepi ruled for at least  or 94 years, the longest recorded reign of any ruler in the world. Since he was at least  or 6 when he became king, Pepi must have reached the age of  or 100 before he died.

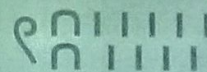
In the stela below, there are offerings of cattle, fowl, alabaster, and cloth. The lotus flower beneath each hieroglyph tells how many of each is being offered.



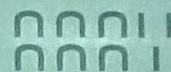
Stela of Rehuertjersen (detail). Egyptian (Abydos), Dynasty 12 (ca. 1981–1952 BC). Limestone.

Match these numbers to the correct hieroglyphs.

54,700



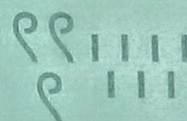
307



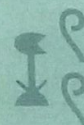
1,200



63



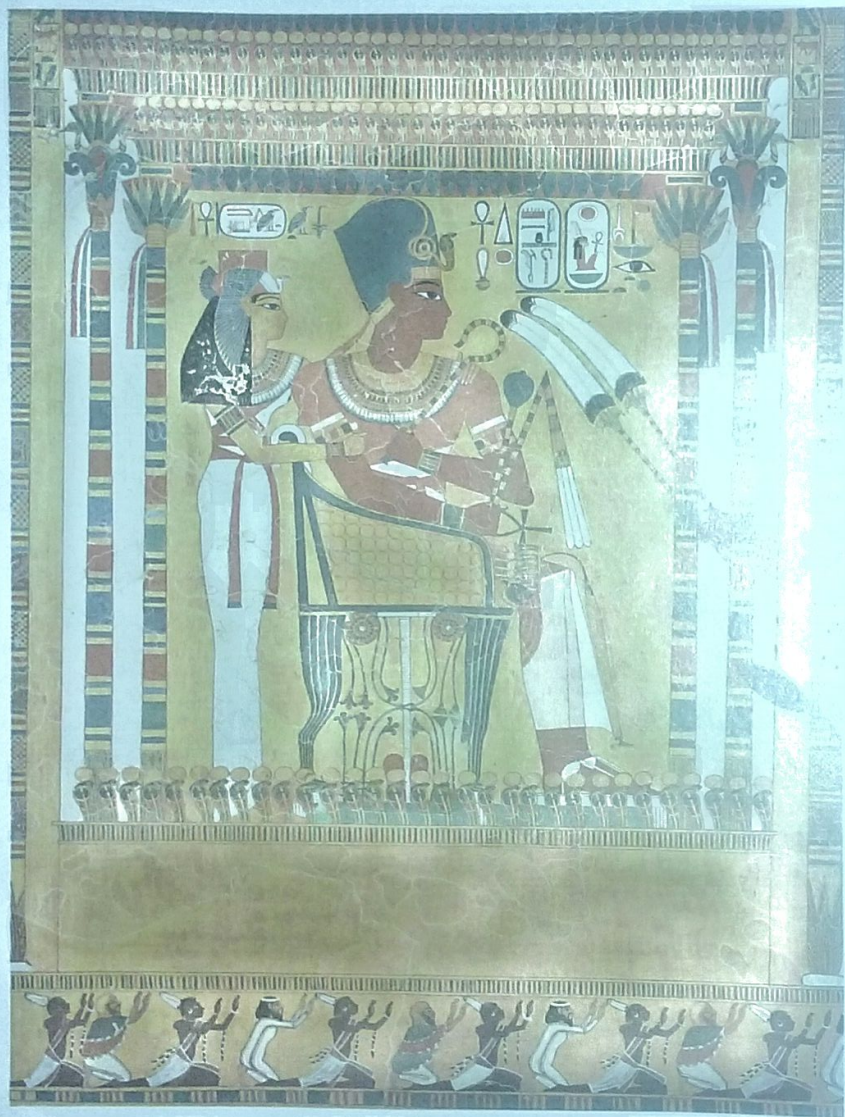
129



(See page 47 for answers.)



# Hieroglyphic Clues



Amenhotep III and His Mother, Mutemua, in a Kiosk. Egyptian (Thebes),  
Dynasty 18 (ca. 1390–1352 BC). Tempera on paper.



When an Egyptian scribe wrote a word, he often left out the vowels and wrote just the consonants. But how can you tell the difference between the words *sun* and *son* if they are both spelled *sn*?

The Egyptians solved this problem by devising a way to indicate the meaning of a word or, at least, to give the reader a clue to its meaning. They used what we call determinatives, or hieroglyphs placed at the end of a word, to indicate its general meaning. For example, the hieroglyph ☒, a village with crossroads, would be written after the name of a town or even a country. In the same way, the name of a woman was identified with the hieroglyph ♀, and the name of a man with the hieroglyph ♂.



# LETTERS, HIEROGLYPHS, AND THEIR SOUND

Letter	Hieroglyph	Sound
--------	------------	-------

One other determinative, a single stroke, **I**, is very common. It tells you to read a hieroglyph as a picture. For example, the forearm  usually represents the *a* sound, but written with a stroke,  means *arm*.

Determinatives have no sound; they just give a visual clue to the meaning of the word. For example:

gs  = goose    gs  **I** **I** **I** = geese    gs   = Gus













## RD THS!

Can you imagine how hard it would be to read if we left out the vowels? Write a short sentence leaving out the vowels and see if anyone else can understand it. Even you may not be able to read it after a few minutes.

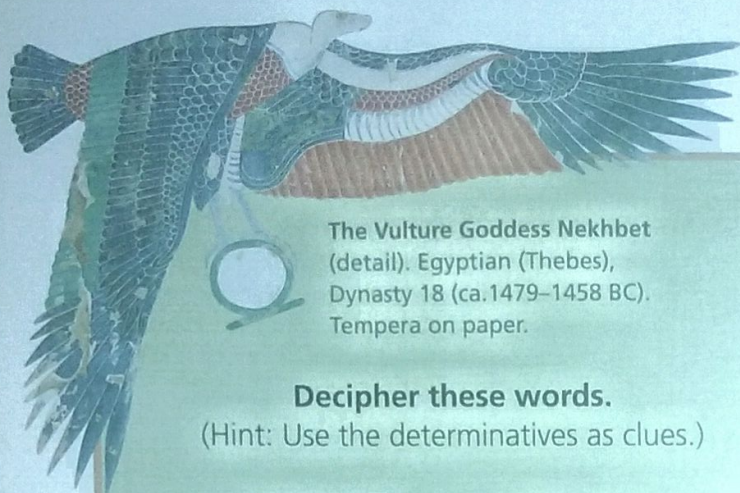


**A Scribe** (detail). Egyptian (Thebes), Dynasty 18 (ca. 1550–1295 BC). Tempera on paper.

## Hieroglyphic Determinatives

Hieroglyph	Meaning
 seated man	man's name, male
 seated woman	woman's name, female
 seated man with hand to mouth	eat, drink, speak
 village with crossroads	town or country name
 sun	sun, light, time
 house plan	house, building
 water	water, liquid
 walking legs	walk, run, go
 papyrus roll	write, book, abstract idea
 pintail duck	goose, duck, bird
 three strokes	plural
 eye	see





**The Vulture Goddess Nekhbet**  
(detail). Egyptian (Thebes),  
Dynasty 18 (ca. 1479–1458 BC).  
Tempera on paper.

### Decipher these words.

(Hint: Use the determinatives as clues.)

- |             |           |
|-------------|-----------|
| 1. mssssp   | 13. wrt   |
| 2. bstn     | 14. shn   |
| 3. bld      | 15. wstl  |
| 4. rbn      | 16. jg    |
| 5. rbn      | 17. lk    |
| 6. rbn      | 18. lk    |
| 7. rn       | 19. trp   |
| 8. mrk      | 20. mscw  |
| 9. mrkt     | 21. mny   |
| 10. tlk     | 22. sng   |
| 11. wshngtn | 23. nwyrk |
| 12. wshngtn | 24. prs   |

(See page 47 for answers.)


Now you can recognize the alphabetic hieroglyphs and some determinatives. But it is probably obvious that there are a lot of hieroglyphs that you don't recognize. More than 6,000 hieroglyphs have been identified. Luckily for scribes, only about 700 hieroglyphs were used at any one time. Only about 250 of these were used frequently.






Some hieroglyphs represent two sounds (bilateral) (*bi* means *two*). Others represent three sounds and are called trilaterals (*tri* means *three*). For example, the basket with a handle is a bilateral representing the sounds *n* and *b* , or *neb*. (The vowel is not represented.) The sign is a trilateral representing the sounds *n* , *f* , and *r* , or *nfer*. There are some others in the chart at right.



Sometimes bilaterals are used alone to represent entire words. Sometimes they are combined with other hieroglyphs. For example, *sa* means *son* but *sat* means *daughter*. *per* means








# LETTERS, HIEROGLYPHS, AND THEIR








Letter	Hieroglyph	Sound
A	 vulture	Use the vulture for the a sound in about and a

house. But   *Aperi* means *to go*. Three other Egyptian words you will see frequently are  *neb* meaning *lord* or *every*,  *ka* meaning *spirit*, and  *nesut* meaning *king*.

Trilaterals are also used alone or with other hieroglyphs to spell words. Some of these are surprising. Who could think that a heart and a windpipe  (pronounced *nefer*) could mean *beautiful*? Or that a beetle  (pronounced *kheper*) could mean *to come into existence*?

In spite of the economy of biliterals and trilaterals, Egyptians often repeated more hieroglyphs than the word needed to spell a word. For example, the word *ankh* meaning *life*, could be spelled either  or   , repeating the *n* and *kh*. The word *hotep*, meaning *offering*, could be written  or  , repeating the *t* and *p*. With such a complicated system of spelling, it's no wonder that modern scholars needed many years to figure out how to decipher hieroglyphs!

## Bilaterals and Trilaterals

Hieroglyph	Sound	Pronunciation
 duck	s + a	sa
 upraised arms	k + a	ka
 house plan	p + r	per
 beetle	kh + p + r	kheper
 sandal strap	a + n + kh	ankh
 table with bread	h + t + p	hotep
 plant	s + u	soo



# Magical Hieroglyphs



Amentet, Goddess of the West (detail). Egyptian, Dynasty 25 (ca. 712–664 BC). Painted wood panel.

Although hieroglyphs represent sounds and sometimes whole words, the Egyptians never forgot that they were also pictures of animals, plants, and other real things. At certain periods in Egyptian history, scribes seem to have treated the animal hieroglyphs as though they could magically come alive.

In some places, they left the legs off birds, perhaps so they wouldn't run away. For example, the vulture, the owl, and the quail chick would have looked like this:





In other places, scribes seem to have tried to "kill" dangerous animals so that these animals wouldn't harm a person in the afterlife. For example, the head was sometimes cut off of a poisonous horned viper, as is the detail from a coffin shown below. In other places, the cobra was similarly made harmless.



Coffin of Menqabu (detail). Egyptian, First Intermediate Period (2100–2061 BC). Painted wood.




# LETTERS, HIEROGLYPHS, AND THEIR SOUND

Letter	Hieroglyph	Sound
A	 vulture	Use the vulture for the <b>a</b> sound in words like <b>a</b> t and <b>ba</b> t or about and <b>a</b> cross.
	 falcon	Use the falcon for the <b>f</b> sound in words like <b>f</b> ather and <b>f</b> ire.

Letter	Hieroglyph	Sound
	 vulture	Use the vulture for the <b>a</b> sound in words like <b>a</b> t and <b>ba</b> t or about and <b>a</b> cross.
	 falcon	Use the falcon for the <b>f</b> sound in words like <b>f</b> ather and <b>f</b> ire.

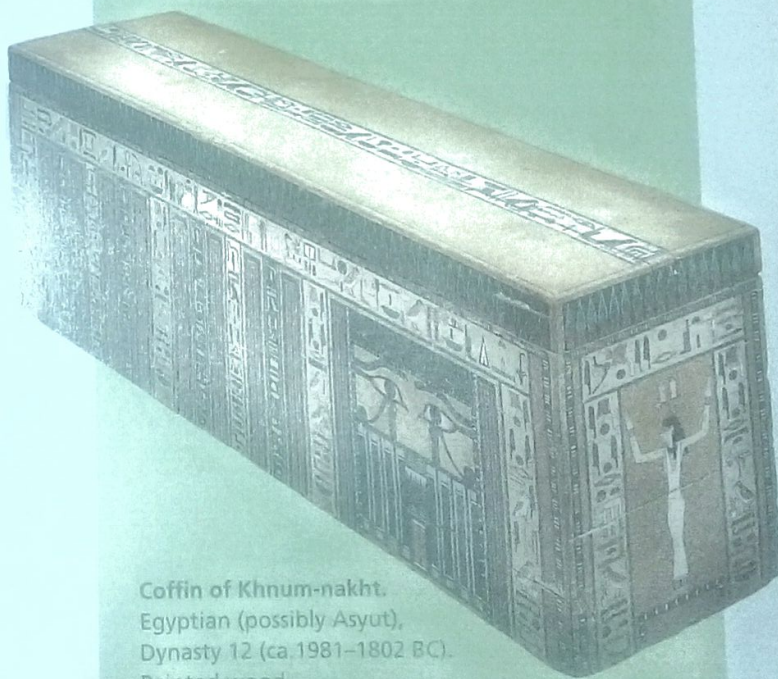


**Sacred Eye of Horus.** Egyptian, Dynasty 18 (ca. 1390–1295 BC). Faience.

The Egyptians also used some hieroglyphs as amulets, or good luck charms, the way you might use a rabbit's foot today. For example,  the *wedjat*-eye or the “eye of Horus” is a charm for healing that appears frequently in Egyptian art and jewelry. The god Horus is usually depicted as a man with a falcon's head. The lines that you see coming down from the *wedjat*-eye are the markings on a falcon's face. According to one Egyptian myth, Horus lost

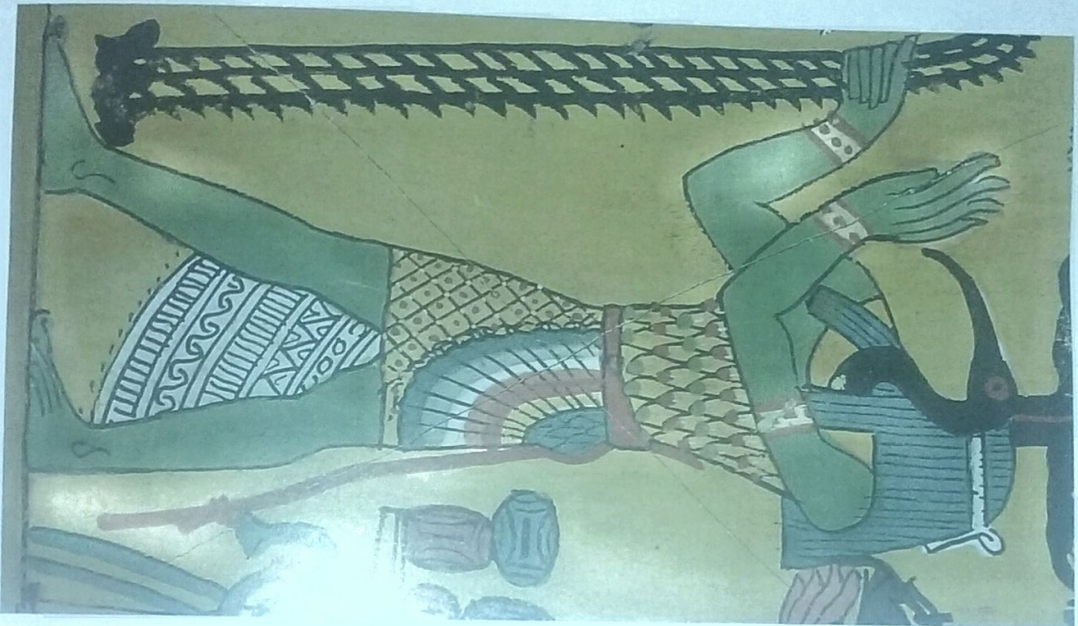
## Look Out

The two eyes of Horus were painted on the left side of many rectangular coffins, as shown on the coffin below. During the period when this type of coffin was built, the body was placed on its left side in the coffin. It's possible that the Egyptians believed that the dead person could see out of the eyes painted on the coffin.




**Coffin of Khnum-nakht.** Egyptian (possibly Asyut), Dynasty 12 (ca. 1981–1802 BC). Painted wood.





Thoth (detail), Egyptian (probably Meir), Roman period (ca. AD 60–70). Painted plaster.

one of his eyes in a great battle. The pieces of the eye were found by the god Thoth (usually shown as a man with the head of a bird called an ibis, as depicted at left), who magically put them back together, making the eye whole. The word *wedjat* means “to be whole” and the meaning gives the hieroglyph its healing power.

Another common Egyptian amulet is the scarab beetle . These little creatures are also called dung beetles because they collect huge balls of manure when they lay their eggs. The Egyptians believed that would have seen these tiny beetles rolling their magic balls of dung in front of them around. In Egyptian mythology, it was the scarab that pushed the sun into the sky every day at dawn.


the hieroglyph also represented sounds that could spell the Egyptian words that mean “come into existence” (the way the sun




Scarab, Egyptian (Thebes), Dynasty 18 (ca. 1550–1295 BC). Steatite.




# LETTERS, HIEROGLYPHS, AND THEIR SOUNDS

Letter	Hieroglyph	Sound
A		
	where forearm	Use the vulture for the <b>a</b> sound in words. Use <b>ai</b> and <b>hai</b> for about and across. Use the forearm for the <b>a</b> sound in words like <b>able</b> and <b>male</b> .

Letter	Hieroglyph	Sound
O		
	vulture	Use the vulture for the <b>o</b> sound in words like <b>ought</b> and <b>four</b> . Use the quail chick for the <b>o</b> sound in words like <b>moon</b> , <b>now</b> , and <b>go</b> .

seems to come into existence each day when it rises). Probably because of the meaning of the hieroglyph, a single scarab was a very powerful amulet, and hundreds of thousands (or even millions) of scarabs were made by the ancient Egyptians.

Another Egyptian hieroglyph that may be familiar is , the ankh. *Ankh* means "life." The hieroglyph often appears in scenes on temple walls and royal tombs where a god offers life to a king.

In the scene at right, the god Horus symbolically gives life to the king, who is represented here by a falcon.



Horus Offering an Ankh (detail). Egyptian (Lisht), Dynasty 12 (ca. 1981–1952 BC). Limestone.





Coffin of Khnum-nakht (detail). Egyptian (possibly Asyut), Dynasty 12 (ca. 1981–1802 BC). Painted wood.

A young scribe learned his trade by copying texts. The texts that he copied were sometimes stories, sometimes poems, and sometimes lists of instructions on how to live an upright life. Much of the Egyptian literature that has been preserved comes from copies made by apprentice scribes. Some of these copies are incomplete, with the beginning, middle, or end missing. Others have mistakes in grammar and spelling.

When scribes were practicing their writing, they used inexpensive materials to write on instead of papyrus, a kind of paper that took a lot of time

and a great deal of effort to make. For example, a scribe could use a piece of broken pottery or a smooth chip of limestone to practice writing. The sketch shown below was probably made by an artist decorating a royal tomb. The grid lines were made so that the draftsman could exactly copy the hieroglyphs from the sketch to the tomb wall, just as we use graph paper today to transfer drawings to larger surfaces.

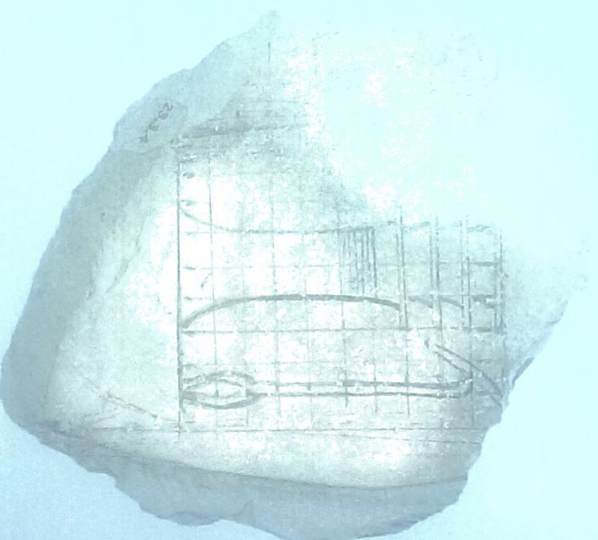
## The Sign for Scribe

The hieroglyph for the word *scribe* is made up of a small palette, a water pot, and a reed brush. The same hieroglyph was used for the verb to *write*. You can tell the difference by looking at the determinative at the end of each word.

**Scribe** ends  
with a seated  
man.




**To write** ends  
with a roll of papyrus  
tied with a string.



Artist's Gridded Sketch, Egyptian (Thebes), Dynasty 18 (ca. 1550–1295 BC). Inked limestone.



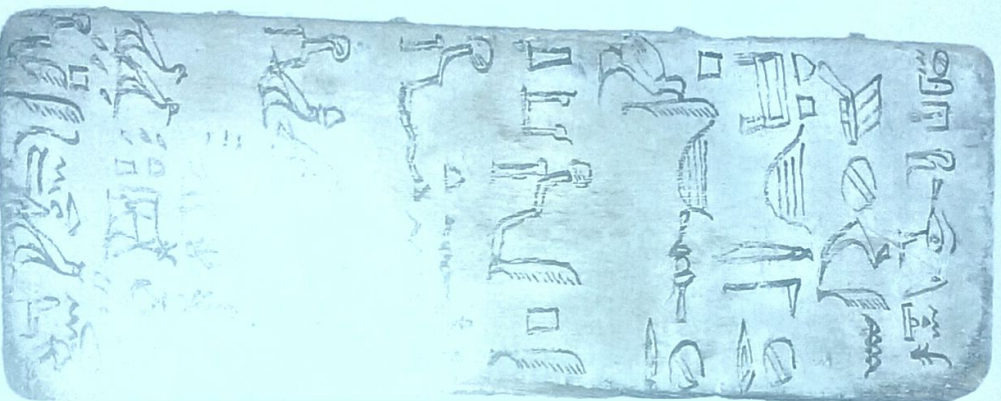
# LETTERS, HIEROGLYPHS, AND THEIR SOUND

Letter	Hieroglyph	Sound
A		Use the picture for the a sound in words like at and about, and across.

Letter

Hi

The wooden copy board was another inexpensive writing surface. The board was covered with whitewash and used by the scribe. Later the surface could be scraped off or covered with a new coat of whitewash and used again. The scribe who wrote on the board at right copied parts of some funerary texts. Although his hieroglyphs are fairly easy to identify, the sizes are uneven and the spacing is awkward, suggesting that this scribe was not very experienced yet.



**Scribe's Writing Board.** Egyptian (vicinity of Akhm), Dynasty 11 (ca. 2124–1981 BC). Wood and gesso.

**Nany's Funerary Papyri (detail).** Egyptian (Thebes), Dynasty 21 (ca. 1070–945 BC), inked papyrus.



## Egyptian Paper

The papyrus plant once flourished along the banks of the Nile River and could grow to thirteen feet. In order to make paper, the outer layer of the papyrus's triangular-shaped stem was peeled away. Then the inner spongy layer was sliced into strips. Two layers of strips—one horizontal and one vertical—were laid on top of each other and weighted. When the sticky fluid from the plant bonded the strips into sheets, the sheets could be used as paper.



# Two Styles of Writing

**W**hen we learn to write, we are taught two forms of writing. First we learn to print, making each letter with care. Then we are taught to run the letters of a word together in what is called cursive. It is much faster to write in cursive than to print, but since each person's handwriting is different, cursive can be hard to read.

The same is true of Egyptian writing. Egyptian scribes didn't always write in carefully formed hieroglyphs. Hieroglyphic writing was usually used on religious or official monuments. The

texts carved on the walls of temples or painted in tombs are almost always written in hieroglyphs. Everything was written by hand, and each hieroglyph was drawn or carved separately. Remember, Egyptian scribes didn't have computers, scanners, printers, photocopyiers, or stamps. Even a very good, quick scribe spent a lot of time copying a long hieroglyphic text.

When a scribe wrote something quickly or wrote less formal texts, such as tax records or receipts, he used a cursive hieratic, which is like cursive. This was a much faster way to write, but it is hard to read because each person

## All in the Details

Some hieroglyphs on temple walls and tombs are so carefully made that you can see the individual feathers on birds and veins on reed leaves.

**Outer Coffin of Nephthys (detail).** Egyptian, Dynasty 12 (ca. 1981–1802 BC). Painted wood.





# LETTERS, HIEROGLYPHS, AND THEIR SOUND.

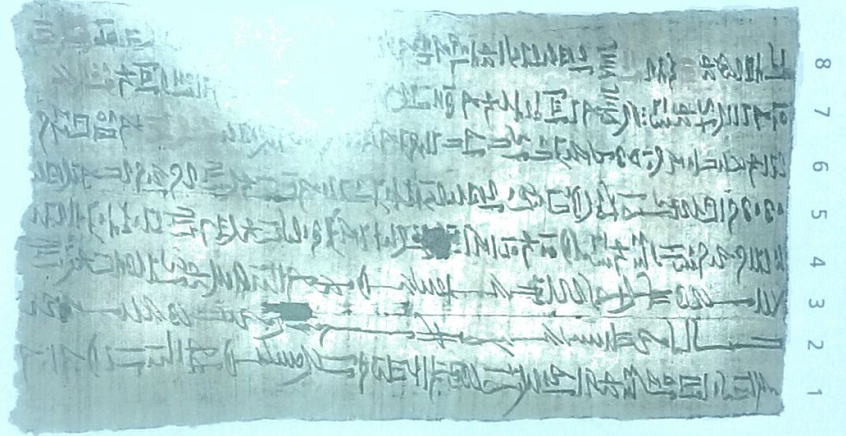
Letter	Hieroglyph	Sound
A		Use the vulture for the a sound in words like at and lat or about and across.
		Use the forearm for the A sound.

Letter	Hieroglyph
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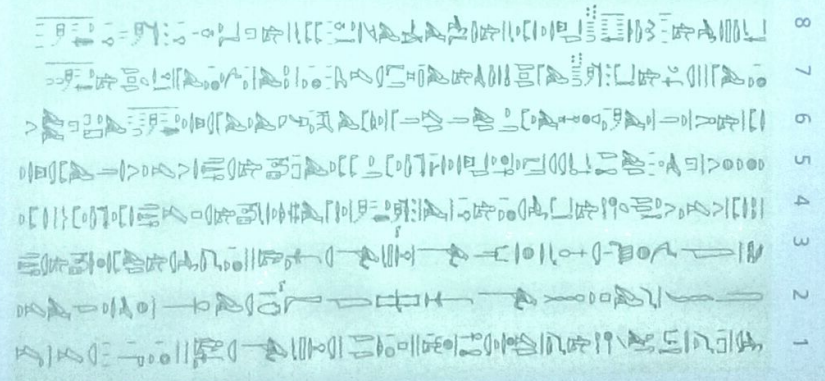
wrote slightly differently. It is possible, however, to recognize individual hieroglyphs in hieratic writing.

The letter in hieratic at near right was written by a scribe for a man named Hega-nakht. It mentions the amounts of grain that he expects to receive from his tenant farmers. (The Egyptians did not use money. Instead they paid with food, or cloth, or wine.) At first glance, the hieratic probably looks like meaningless scribbles. But examine it carefully and you will see that many of the scribbles resemble hieroglyphs. Compare the letter to the same one written in hieroglyphs by a modern Egyptologist. In the hieratic letter, see if you can find the hieratic **𐤀**, an owl, and the hieratic **𐤁**, a quail chick.

𐤀 =   
𐤁 =



Letter for Hega-nakht, Papyrus III.  
Egyptian (Thebes), Dynasty 12  
(ca. 1981–1802 BC). Papyrus.



An Egyptologist's transcription of  
Letter for Hega-nakht, Papyrus III.



# Deciphering Hieroglyphs



Djehuty and His Mother Receiving Offerings (detail). Egyptian (Thebes), Dynasty 18 (ca. 1427–1400 BC). Tempera on paper.

The most recently written hieroglyphic text that has been found was written in AD 394. That's more than 1,600 years ago. At that time, only a few people still knew how to use this ancient writing system, and when they died, the skills to read and write hieroglyphs died with them.

Off and on for hundreds of years, people who saw the ancient hieroglyphic texts on gigantic statues or temple walls failed to decipher the writing. They failed partly because they didn't understand that most of the animals and plants that they saw represented sounds and spelled out words. They thought that each hieroglyph could be read as a word or as an idea. The early "translations" of hieroglyphic texts were often very imaginative, but totally incorrect.

The most important key to deciphering hieroglyphs was accidentally discovered in 1799 by a group of French soldiers who had gone to Egypt with the invading army of Napoleon Bonaparte. While these men were preparing to build a fortress at the town of Rosetta, as Rosetta, they uncovered a broken stela that was covered with writing. This stela, which can be dated precisely to March 27, 196 BC, is called the Rosetta Stone. It is probably the most famous Egyptian inscription ever found. It is certainly the most important. Why does this battered-looking piece of stone have so much value? It isn't a great work of art. The stone, basalt, isn't considered precious. The decree



# LETTERS, HIEROGLYPHS

Letter Hieroglyph

written on the stela is less important than many others. Rather, the value is in the writing itself. The decree has been written in more than one language.

The stone is split into three distinct sections. The top section is written in hieroglyphs, which were still used at the time to write official documents and religious texts. The middle is written in a script called demotic. This script represents a late form of the Egyptian language that was spoken at the time. The bottom section is written in ancient Greek because there were many Greeks living in Egypt in 196 BC, and most of them probably couldn't read hieroglyphs or demotic. (The Ptolemies, who ruled Egypt at this time, had come from Greece with Alexander the



Rosetta Stone. Egyptian (el-Rashidy), 196 BC. Basalt.

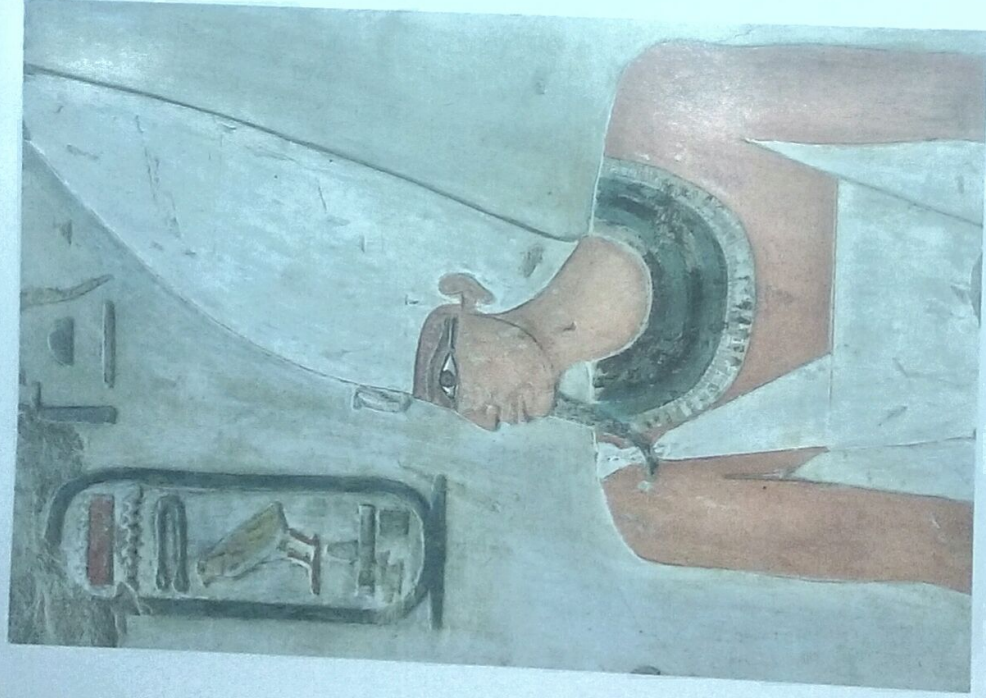
Great, who conquered the country in 332 BC. Although at the time they had ruled Egypt for more than one hundred years, the Ptolemies had not given up their Greek heritage or language.)

Greek Writing

Demotic Writing

Hieroglyphic Writing





**Relief of Nebhepetre Mentuhotep II (detail).** Egyptian (Thebes),  
Dynasty 11 (ca. 2051–2000 BC). Painted limestone.

In 1799, no one could read hieroglyphs or demotic, but ancient Greek was taught in schools, and it was possible to translate the Greek inscription on the Rosetta Stone. More importantly, it was possible for scholars to find the names of people and places in the Greek text, and then compare them to the same names in the Egyptian text.

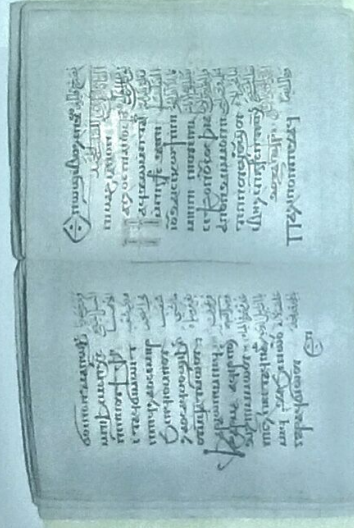
Unfortunately, the earliest scholars still thought that hieroglyphs were a form of picture writing, with each symbol representing an entire word or idea. It wasn't until 1814 that an Englishman named Thomas Young realized that many hieroglyphs represented sounds and that a group of hieroglyphs could be used to spell a word. In 1822, Champollion could not understand the words, but he was on the right track. Young also proved that the hieroglyphs in a cartouche represented the name of a pharaoh.

For more than twenty years after the discovery of the Rosetta Stone, many people tried to decipher the texts. The man who finally succeeded was



# LETTERS, HIEROGLYPHS

Letter Hieroglyph



Coptic Manuscript. Egyptian (Wadi an-Natrun), Coptic period (AD 200–1199). Inked paper.

## Lots of Languages

As a child, Champollion had become interested in Egypt and was determined to decipher hieroglyphs. In preparation for this, he learned many languages, including Coptic, Arabic, and Hebrew, all of which (especially Coptic) have some relationship to ancient Egyptian.

a brilliant young Frenchman named Jean-François Champollion. Gradually, Champollion discovered which hieroglyphs represented which sounds. He learned that twenty-four hieroglyphs were alphabetic, standing for the single sounds that are included on the standard alphabet. The others represented groups of sounds that were used as determinatives. (Thomas Young had suggested that there were different kinds of hieroglyphs, but he never got as far as Champollion in identifying them.) In 1822, at the age of thirty-one, Champollion became the first modern person who could actually decipher hieroglyphic writing. This made him the first person in almost 1,500 years who could read what the Egyptians had written about themselves and their culture.

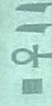
## Match these names to their hieroglyphic equivalents.

(Names were the first words that Young and Champollion were able to read.)

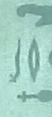
Isotret  
(woman's name)



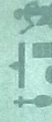
Teti  
(king's name)



Mechechi  
(man's name)



Pepi  
(king's name)



Piankhy  
(king's name)



Neferhotep  
(man's name)



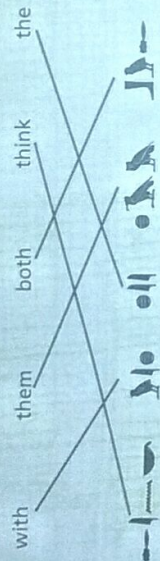
(See page 47 for answers.)



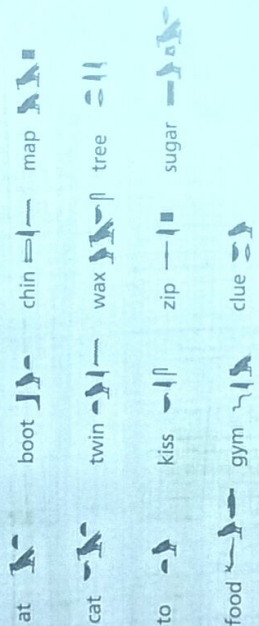
Ink Pad

# Answers to Puzzles

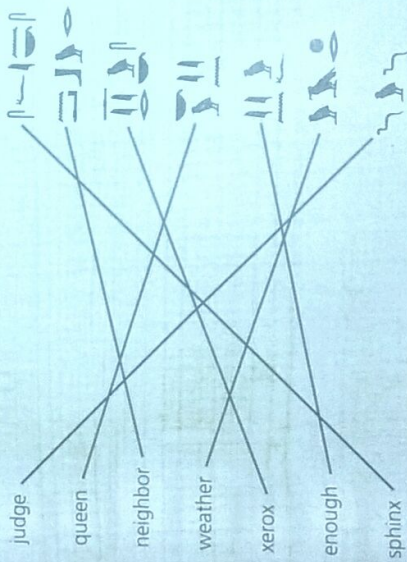
Page 11



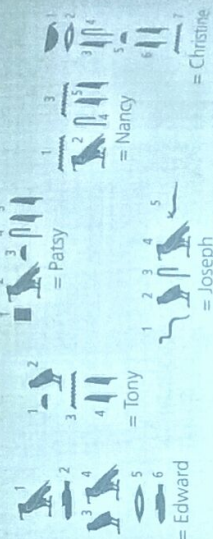
Page 14



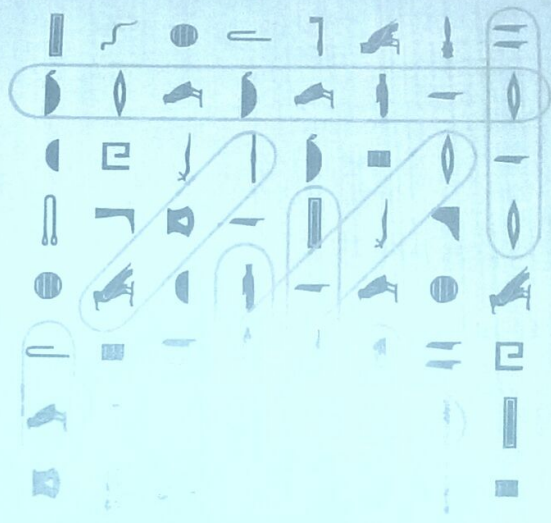
Page 15



Page 19



Page 21





Page 26

	= 1,492
	= 365
	= 5,280
	= 1,121,239

Page 30

1. = Mississippi (River)	13. = write or wrote
2. = Boston	14. = shine
3. = build	15. = whistle
4. = robin	16. = jog or jig
5. = Reuben or Robin	17. = lake
6. = Robin or Robyn	18. = look
7. = run	19. = trip
8. = Mark	20. = Moscow
9. = market	21. = many
10. = talk	22. = sing
11. = Washington (D.C.)	23. = New York
12. = Washington (George)	24. = Paris

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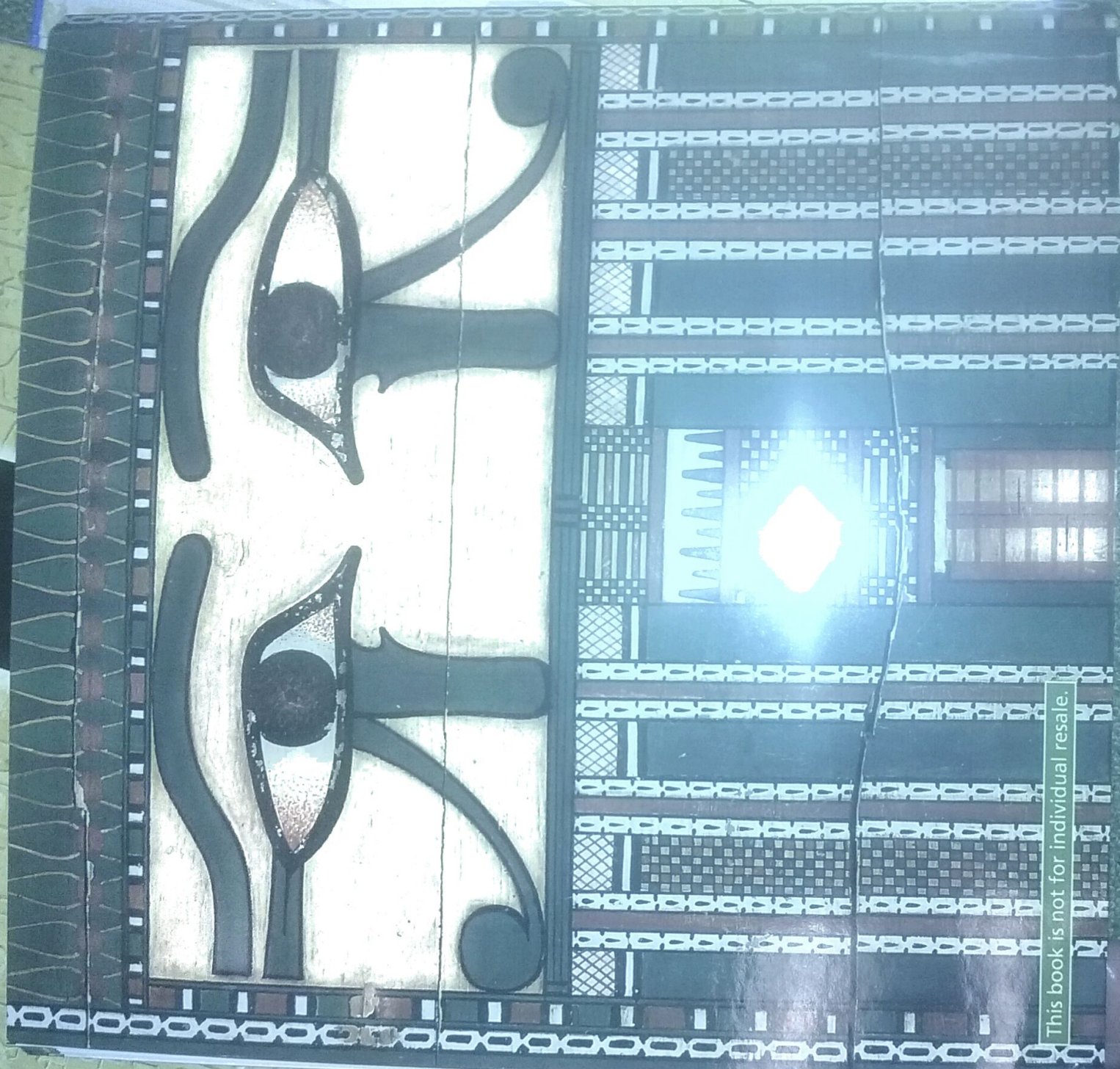
54,700	
307	
1,200	
63	
129	

	Piankhy (king's name)
	Neferhotep (man's name)

















































This book is not for individual resale.



# LETTERS, HIEROGLYPHS,

Letter	Hieroglyph	Sound
A	 vulture  foam	Use the vulture for the <b>a</b> sound in words like <b>a</b> t and <b>bat</b> or <b>a</b> bout and <b>a</b> cross. Use the foam for the <b>a</b> sound in words like <b>a</b> ble and <b>a</b> ke.
B	 foot	Use the foot for the <b>b</b> sound in words like <b>b</b> all or <b>b</b> oy.
C	 basket  hillside  folded cloth	Use either the basket or the hillside for the hard <b>c</b> sound in words like <b>c</b> amel, <b>c</b> andy, and <b>c</b> hool. Use the folded cloth for the soft <b>c</b> sound in words like <b>c</b> ent and <b>c</b> ice.
CH	 hobble rope	Use the hobble rope for the <b>ch</b> sound in words like <b>ch</b> oose and <b>ch</b> urch.
D	 hand	Use the hand for the <b>d</b> sound in words like <b>d</b> elta and <b>d</b> ine.
E	 vulture  two reed leaves	Use the vulture for the <b>e</b> sound in words like <b>e</b> arn and <b>e</b> ar or <b>e</b> t and <b>e</b> lf. Use two reed leaves for the <b>e</b> sound in words like <b>e</b> ar* and <b>e</b> ed.
F	 horned viper	Use the horned viper for the <b>f</b> sound in words like <b>f</b> at and <b>f</b> uraph.
G	 pot stand	Use the pot stand for the hard <b>g</b> sound in words like <b>g</b> irl and <b>g</b> o.
H	 shelter  rope	Use either the shelter or the rope for the <b>h</b> sound in words like <b>h</b> ind, <b>h</b> it, and <b>h</b> o.
I	 one reed leaf	Use one reed leaf for both the short <b>i</b> sound in words like <b>i</b> ti and <b>i</b> ll, and the long <b>i</b> sound in words like <b>i</b> te and <b>i</b> y.
J	 cobra	Use the cobra for the <b>j</b> sound in words like <b>j</b> am and <b>j</b> inx or <b>G</b> orge* and <b>g</b> entle.
K	 basket  hillside	Use either the basket or the hillside for the <b>k</b> sound in words like <b>k</b> ick and <b>k</b> ee.
L	 open mouth	Use the open mouth for the <b>l</b> sound in words like <b>l</b> ine and <b>l</b> oaf.
M	 owl	Use the owl for the <b>m</b> sound in words like <b>m</b> ud and <b>m</b> ud.
N	 water	Use the water for the <b>n</b> sound in words like <b>n</b> ine and <b>n</b> ile.

# AND THEIR SOUNDS

Letter	Hieroglyph	Sound
O	 vulture  quail chick	Use the vulture for the <b>o</b> sound in words like <b>o</b> r and <b>o</b> ver and <b>o</b> ught and <b>o</b> ar. Use the quail chick for the <b>o</b> sound in words like <b>o</b> ot and <b>o</b> on, <b>o</b> at and <b>o</b> pen, <b>o</b> at and <b>o</b> ot.
P	 stool	Use the stool for the <b>p</b> sound in words like <b>p</b> et and <b>p</b> end.
Q	 basket + quail chick	Use the basket and the quail chick for the <b>qu</b> ( <b>kw</b> ) sound in words like <b>qu</b> een and <b>qu</b> ick.
R	 open mouth	Use the open mouth for the <b>r</b> sound in words like <b>r</b> aven and <b>r</b> ain.
S	 folded cloth  door bolt	Use the folded cloth for the <b>s</b> sound in words like <b>s</b> or <b>house</b> . Use the door bolt for the <b>s</b> sound in words like <b>s</b> ays and <b>s</b> hine.
SH	 lake	Use the lake for the <b>sh</b> sound in words like <b>sh</b> ip, <b>sh</b> ine, and <b>S</b> chmidt.
T	 bread loaf	Use the bread loaf for the <b>t</b> sound in words like <b>t</b> at and <b>t</b> ell.
TH	 cow's belly  (unknown)*	Use the cow's belly for the <b>th</b> sound in words like <b>th</b> at and <b>th</b> rough. Use the hieroglyph for the <b>th</b> sound in words like <b>th</b> er and <b>th</b> e.
U	 quail chick  one reed leaf + quail chick	Use the quail chick for the <b>u</b> sound in words like <b>u</b> t and <b>u</b> ll or <b>u</b> ll and <b>u</b> ll. Use one reed leaf and the quail chick for the <b>u</b> sound in words like <b>u</b> ll and <b>u</b> ll.
V	 horned viper	Use the horned viper for the <b>v</b> sound in words like <b>v</b> iper and <b>v</b> ideo.
W	 quail chick	Use the quail chick for the <b>w</b> sound in words like <b>w</b> hat, <b>w</b> hen, and <b>w</b> ind.
X	 basket + folded cloth	Use the basket and the folded cloth for the <b>x</b> sound in words like <b>x</b> box, <b>x</b> tra, and <b>x</b> ocks.
Y	 one reed leaf  two reed leaves	Use one reed leaf for the <b>y</b> sound in words like <b>y</b> ear, <b>y</b> es, and <b>y</b> ou. Use two reed leaves for the <b>y</b> sound in words like <b>y</b> ay and <b>y</b> ear.
Z	 door bolt	Use the door bolt for the <b>z</b> sound in words like <b>z</b> ebra and <b>z</b> ylophone.

\*The hieroglyph's meaning is still unknown.